

Staff Report

for the Engineering Committee Meeting of November 10, 2020

TO: Engineering Committee

FROM: Doug Roderick, P.E., Interim Engineering Manager
Keane Sommers, P.E., Hydro-Electric Manager

DATE: November 3, 2020

SUBJECT: **Project Status Reports**

ENGINEERING

RECOMMENDATION:

Review the Engineering Department and Hydro-Electric Department Project Status Reports with the Committee.

BACKGROUND:

This item is to provide information to the Committee members regarding the progress, current status and next action to be taken on the projects in process in the Engineering and Hydro-Electric Departments.

BUDGETARY IMPACT:

No budget impact

DR

Attachment:

- Engineering Department Project Status Report
- Hydro-Electric Department Project Status Report

Engineering Department Project Status

<u>Prty</u>	<u>Proj Mgr</u>		<u>Facility Name</u>	<u>WO#</u>	<u>Description</u>	<u>Status</u>	<u>Comments</u>
02 - PIPELINE REPLACEMENT (\$1,500,000) 10151-52907							
01	DOUGLAS RODERICK	(DIV 5) 2020	Lidster Avenue & Country Club Terrace	2071	Replacement of deteriorated water mains and services in this area. 4,545 LF of 8" pipe.	Construction	Final mainline tie-in complete. Tying in existing services to new line. Final paving to be done after service tie-ins are done, depending on the weather.
02	TONIA TABUCCHI HERRERA	(DIV 5) 2020	Rough & Ready Round-a-bout waterline improvements	2497	Nevada county proposed to realign Rough and Ready Hwy, Ridge Road and Adams Ave. NID affected facilities included treated water line along Rough and Ready HWY and Adams Ave; and Rough and Ready Canal crossing/near Ridge Road.	Planning	County has new engineer on project. They are reviewing the necessity of waterline relocation contending that the roundabout doesn't affect operation and that maintenance can still occur although not convenient. Culvert for RR canal will be replaced. ROW under review and needs to be discussed with county.
03	TONIA TABUCCHI HERRERA	(DIV 5) 2021	Christian Life Way at Highway 49	6962	Replace approximately 1500 LF of pipeline with 8" pipeline. Existing pipeline is undersized; has reached its useful life, is difficult to access, existing ROW is inadequate, requires new route for accessibility	Design	Investigating an alternative route to improve maintenance access, and potential to add additional service connections.
04	TONIA TABUCCHI HERRERA	(DIV 4) 2021	Meadow Brook Pipeline Relocation	2324	Relocate remaining copper pipe from backyards and trees that have broken the main line several times, to Bell Road.	Planning	2021 Budgeted Project.
05	ADRIAN SCHNEIDER	(DIV 2) 2021	North Day Road Pipeline Replacement	2182	Replacement of badly deteriorated A.C. pipeline on North Day Road. Approximately 3,146 feet long.	Design	Design at 90%. Right of Way to review existing or required easement modifications.
06	ADRIAN SCHNEIDER	(DIV 3) 2021	Willaura Acres	2323	Replace deteriorated water mains and services.	Planning	2021 Budgeted Project.
07	DOUGLAS HOBBS	(DIV 2) 2021	Osborne Hill Inlet Pipe	6966	Osborne Hill Inlet Pipe 1,720' of 18" pipe	Planning	Reinstating project previously deferred due to funding. 2021 Budgeted Project.
08	TONIA TABUCCHI HERRERA	(DIV 4) 2021	Live Oak Way	2534	Replace old and undersized valves and service lines.	Planning	2021 Budgeted Project.
03 - PRV REPLACEMENT (\$160,000) 10151-52908							
01	TONIA TABUCCHI HERRERA	(DIV 2) 2019	Cedar Ridge PRV Replacement	2366	Existing PRV station is badly deteriorated with valves in a vault. Replacement station will be above ground. Additional ROW is required	Design	Design 90%. Property owner to be contacted regarding existing easement; easement adjustment is required.
02	TONIA TABUCCHI HERRERA	(DIV 1) 2019	East Ridge PRV Replacement	2318	Existing PRV station is badly deteriorated with valves in a vault. Replacement station will be above ground. Additional ROW is required.	Design	Design 10%. Survey is complete. Existing easement information received.
03	DOUGLAS HOBBS	(DIV 1) 2020	Berggren Lane PRV Replacement	2370	Replace PRV with 1300 LF of 8" pipe connecting Red Dog Rd. with Jasper Agate Court	Design	Design at 95%. In process of obtaining easement. Project will be constructed by Maintenance.
04	DOUGLAS HOBBS	(DIV 2) 2021	Silver Way PRV Replacement	1010	Replace existing PRV station at corner of Silver Way and Hwy 174 with an above ground PRV station upstream on Hwy 174	Design	Design at 10%. Property owner to be contacted regarding adding above ground structure to existing pipe easement.
05 - RAW WATER SYSTEM IMPROV (\$2,100,000) 10151-52910							
01	DOUGLAS RODERICK	(DIV 4) 2019	Doty North Canal (PC)	1031	Doty North canal which will encase approximately 450 feet of canal and replace siphon #1.	Design	Project out to bid. Bids are due November 10, 2020. Anticipate bringing to the Board for award of contract on November 18, 2020. Pre-ordered steel pipe delivery anticipated the week of November 16, 2020. Finalizing easement documents for property owner signature.
02	DOUGLAS HOBBS	(DIV 4) 2020	Santini Siphon 1	1098	Replacement of undersized Siphon with 1500 LF of 18" pipe.	Design	Design at 95%. Acquiring easements. Project will be completed by Maintenance.
03	DOUGLAS RODERICK	(DIV 1) 2020	South Yuba Canal Repair & Upgrades Ph 1	2419	Repair/Replace segments of So. Yuba Canal	Planning	Field inspections occurred on October 27 & 28, 2020. Tunnel Inspections occurred November 3 & 4, 2020. Additional follow-up inspections for areas identified in first field inspection will be done in November 2020.
04	ADRIAN SCHNEIDER	(DIV 3) 2021	Maben Canal IV	2532	Rehabilitate and enlarge canal.	Planning	2021 Budgeted Project.
05	ADRIAN SCHNEIDER	(DIV 3) 2021	Kyler Canal Rehab	2536	Rehabilitate and enlarge the Kyler Canal	Planning	2021 Budgeted Project.
06	DOUGLAS HOBBS	(DIV 4) 2020	Hayt Canal Siphon Replacement	2474	Hayt Canal Siphon #1 and #6, replace aged infrastructure.	Design	Maintenance planning project. Construction of siphon #1 starting October 15, 2020. Project to include removal of 18" private culvert upstream.
07	TONIA TABUCCHI HERRERA	(DIV 5) 2021	Pet Hill Extension Repairs	2373	Repair and upgrade pipeline for capacity	Planning	2021 Budgeted Project.

Engineering Department Project Status

Prty	Proj_Mgr		Facility Name	WO#	Description	Status	Comments	
05 - RAW WATER SYSTEM IMPROV (\$2,100,000) 10151-52910								
08	TONIA TABUCCHI HERRERA	(DIV 5)	2021	China Drop Pipe Replacement	2329	Replacement of badly deteriorated pipeline to improve water delivery and reliability.	Planning	2021 Budgeted Project.
09	DOUGLAS HOBBS	(DIV 1)	2021	Clipper Creek Techite	2535	Replace 8600' of 24" Techite pipe.	Planning	2021 Budgeted Project.
06 - BACKBONE EXTENSION (\$1,700,000) 10151-52911								
01	TONIA TABUCCHI HERRERA	(DIV 5)	2020	E. George to LWW Pipeline Project-Phase I	2255	Phase 1 Hope Street to approximately 12390 Rough & Ready Highway along R&R HWY parallel construction of 2475 lf of pipeline and 1 PRV replacement. ROW required for replacement above ground PRV. Pipeline construction within County ROW.	Design	Phase 1 PRV location ROW proposal accepted. Ridge Road 1200' constructed by maintenance. Survey received for other areas within system.
07 - NON-PROGRAMMATIC (5,850,000) 10151-52915								
01	DOUGLAS RODERICK	(DIV 3)	2021	Combie I Replacement	6746	Combie Phase 1 Pipeline Bypass, 8900 LF of 96" pipe	Construction	Bypass installed and operational on October 16, 2020. Contractor has demo'd most of canal, and has began laying 96" RCP. Excavation for pipe encasement at siphon inlet done to allow forming and pouring of concrete slab.
02	DOUGLAS HOBBS	(DIV 2)	2020	Alta Sierra Tank Replacement	6971	Replace existing Alta Sierra Hypalon-covered reservoir with 3MG storage tank	Pre-Construction	Inlet tie in complete. Reservoir draining completed on November 2, 2020, and Alta Sierra pressure zone switched to PRV station. Contractor to drain remaining water in reservoir and begin removal of Hypalon cover. Resident construction start notification letter sent on November 2, 2020 and contractor archaeological training scheduled for week of November 9, 2020. Design of tank and associated piping in progress. Easement for 8" Pop- Off valve at golf course in progress.
03	TONIA TABUCCHI HERRERA	(DIV 4)	2020	Hemphill Diversion	7032	Hemphill Diversion Project to facilitate Fish Passage.	Design	Comment period is closed for IS/NOP. Scoping meeting summary is posted on District website. DEIR project description under review and further development. AB52 consultation to occur with UAIC.
04	ADRIAN SCHNEIDER	(DIV 3)	2020	North Auburn Treatment Plant	2376	Upgrade of high lift pumps at North Auburn Water Treatment Plant	Design	Basis of Design and draft civil plans presented and finalized. Design/RFQ expected by late September 2020. RFQ to be sent out to contractors for purchase and installation of generator and motor control items. Generator install expected winter of 2020/2021.
05	ADRIAN SCHNEIDER	(DIV 1)	2020	Pine Woods Pump Station	2488	Design, purchase and install a permanent stand-by generator at Pine Woods Pump Station	Planning	Draft study under review.
06	DOUGLAS HOBBS	(DIV 5)	2021	LWW Treatment Plant Expansion	6996	Lake Wildwood Treatment Plant Upgrades - Drying beds, backwash pumps and canal intake screen.	Planning	2021 Budgeted Project.
07	DOUGLAS HOBBS	(DIV 2)	2021	Loma Rica WTP Clear Well Expansion	2375	Expansion of clearwell to add volume for higher plant flows.	Planning	2021 Budgeted Project.
08	DOUGLAS HOBBS	(DIV 2)	2021	Loma Rica WTP Modify CT	2378	Modification of Loma Rica Treatment Plant for additional chlorine contact times	Planning	2021 Budgeted Project.
09	ADRIAN SCHNEIDER	(DIV 3)	2021	David Way Pump Station Rehab	2322	Rehabilitate the existing David Way Pump Station. Facility is badly deteriorated and requires rehab for reliability.	Planning	2021 Budgeted Project.
10	DOUGLAS RODERICK	(DIV 2,3)	2021	Centennial Water Supply Project	7013	Centennial Water Supply Project	Planning	Quarterly update presented at the September 29, 2020, Engineering Committee Special meeting. Due to COVID-19, no consulting work or AB52 consultation has taken place since the last update. The next quarterly update is due in December 2020.
08 - COMMUNITY INVESTMENT (\$800,000) 10151-52912								
00	ADRIAN SCHNEIDER	(DIV 3)	2020	Table Meadow Ph 2 DFWLE	2180	Assist, Design and Construction of 5,770 LF of 8" pipeline for existing neighborhoods approved by Engineering Committee.	Closeout	Notice of Completion dated October 2, 2020. Final billing to include credit change order for rock not excavated. Total project costs under NID estimate. Will be removed from future project status reports.
01	ADRIAN SCHNEIDER	(DIV 2)	2021	Loma Rica Drive - DFWLE	2181	Assist, Design and Construction of a pipeline for existing neighborhoods approved by Engineering Committee January 16, 2018.	Planning	Waiting on available funding to move project forward.

Engineering Department Project Status

<u>Prty</u>	<u>Proj Mgr</u>		<u>Facility Name</u>	<u>WO#</u>	<u>Description</u>	<u>Status</u>	<u>Comments</u>
08 - COMMUNITY INVESTMENT (\$800,000) 10151-52912							
02	ADRIAN SCHNEIDER	(DIV 3) 2023	Maranatha Place DFWLE	2409	Assist, Design and Construction of a pipeline for existing neighborhoods. Approved by Engineering Committee Aug 20, 2019.	Planning	Waiting for available funding to move project forward.
13 - ENGINEERING O&M 10151-NA							
01	GREG JONES	2020	District Wide	1041	Raw Water Master Plan / EIR	Planning	HDR presentation of technical memorandums presented at the August 26, 2020 Board Meeting. Public meeting held on September 24, 2020. Water Planning Projection Presentation scheduled for November 18, 2020. Technical Memorandums are on the District website for public review and comment.
17 - SEDIMENT REMOVAL PROJECTS (\$1,200,000) 10151-52914							
01	ADRIAN SCHNEIDER	2020	District-wide Reservoir Study	2500	District-wide reservoir study of the current condition of all District reservoirs, that includes bathymetry to better understand the diminished capacity due to sedimentation. Will assist in determining costs, prioritization, and alternatives.	Planning	Bathymetric studies being conducted on Rollins, Scotts Flat, Combie, Dutch Flat Forebay and Afterbay. The field work will be completed the first week of November. Draft reporting anticipated December 2020. Reservoir study will incorporate the findings of the bathymetric studies.
02	ADRIAN SCHNEIDER	(DIV 2) 2019	Loma Rica Reservoir	2090	Placement of 5,600 cubic yards of stockpiled sediment at airport property	Post-Construction	C&D Contractors began moving dirt on October 28, 2020. Anticipate completion at end of November 2020. Work being coordinated with airport manager and associated flight activities.
03	ADRIAN SCHNEIDER	(DIV 1) 2019	Newtown Reservoir	6958	Install permanent bypass pipe & remove accumulated sediment from the reservoir to regain capacity.	Post-Construction	Notice of Completion dated October 2, 2020. Will be removed from future project status reports.
04	GREG JONES	(DIV 3) 2019	Combie Sediment Removal Project	2135	Removal of sediment at the east side of Combie Reservoir	Post-Construction	Final report nearing completion, approximately 60-days. Final disposal of material is ongoing.
05	ADRIAN SCHNEIDER	(DIV 2) 2020	Greenhorn Sediment Removal	8515	Removal accumulated sediment from the Greenhorn Creek arm of Rollins Reservoir.	Planning	Reservoir sediment removal study (cost/benefit analysis) to determine validity of removing sediment from this reservoir.
06	ADRIAN SCHNEIDER	(DIV 3) 2020	Orr Creek Reservoir	6963	Cleaning of Orr Creek Reservoir to increase capacity	Planning	Reservoir sediment removal study (cost/benefit analysis) to determine validity of removing sediment from this reservoir.
07	ADRIAN SCHNEIDER	(DIV 2) 2020	Dutch Flat Afterbay Sediment Removal	2213	Remove accumulated sediment from the afterbay to reduce outlet pipe clogging & operation.	Planning	Reservoir sediment removal study (cost/benefit analysis) to determine validity of removing sediment from this reservoir.
08	ADRIAN SCHNEIDER	(DIV 2) 2020	Steephollow Sediment Removal	6877	Removal of sediment at Steep Hollow and protection of hydro facilities	Hold	Need funds to get things moving for Channel / Monitoring. ROW has one easement remaining. Project reassigned to Adrian Schneider.

Hydro-Electric Department Project Status

<u>Prty</u>	<u>Proj Mgr</u>		<u>Facility Name</u>	<u>WO#</u>	<u>Description</u>	<u>Status</u>	<u>Comments</u>
10-1 - HYDRO NON-PROGRAMMATIC (\$250,000) 50112-52915							
01	KEANE SOMMERS	2020	Hydro Field Office	2432	Design and construction of the new Hydroelectric Field Office	Design	The Energy Center program components are under development. The new maintenance facility and storage yard draft pre-design by the architect is complete. The three energy/carbon concept studies are complete; forest carbon sequestration, pumped storage, and solar field. Development of an overall site program carbon and energy management strategy and marketing and partner options is underway. Once all efforts are completed, findings will be summarized to present options and alternatives for developing the site into various levels of renewable energy generation and carbon zero footprint.
10-2 - HYDRO POWERHOUSE IMPROV (\$1,585,000) 50112-52920							
01	NATHAN DROIVOLD	2020	Dutch Flat #2 Powerhouse Balance of Plant.	2348	Install an expandable balance of plant to monitor critical plant systems such as excess vibration of the turbine and generator, temperature, and flow.	Post-Construction	The new balance of plant PLC was installed during September/October outage period. Testing of the new vibration monitoring system was completed before returning the unit to service. Testing for the new float control level testing is scheduled for November 18, 2020.
02	NATHAN DROIVOLD	2020	Chicago Park Powerhouse Governor Replacement	2402	Replace governor, install instrumentation that will enable operators to monitor flow, temperature, and pressure of vital powerhouse components.	Design	Hydro is reviewing the 100% Design submittal and bill of materials. A third-party engineering review is also underway to ensure compatibility with the existing control system at Chicago Park PH. Hydro will procure project materials in Q4 2020. Hydro will complete project installation during the 2021 annual outage for Chicago Park Powerhouse.
03	ADRIAN SCHNEIDER	2019	Combie Reservoir	6943	Combie South Access Road. Develop approx. 3,000 ft. from south abutment.	Planning	Received final changes from Nevada City Engineering on the road alignment through Arroyo's property. Sent to Right of Way to determine easement needs/valuation. Sent hydrogeologist's report on Arroyo's well and NID's impact related to construction and use of future access road (none anticipated).
04	ADRIAN SCHNEIDER	2019	Chicago Park Fire Suppression System (DIV 2)	2164	Upgrade of existing CO2 system (piping, alarms, sensors) to protect Generator. Includes installation of new Clean Agent suppression system for control room and the addition of a fire detection system for electrical cable trays.	Design	Responses and additions to final design being incorporated by consultant. Meeting between NID and consultant to finalize last changes. Goal is to start construction November 9, 2020.
05	THEODORE BLANK	2019	Combie South Electrical Upgrades	2168	Combie South Electrical Upgrades	Design	Hydro and Engineering are working on the containment pad and foundation design for the new transformer. The new 12kV transformer has been manufactured and shipped. Hydro expects to have the transformer delivered in early November.
06	NATHAN DROIVOLD	2020	Dutch Flat #2 Powerhouse Fire Suppression System	2240	Designing, installing and commissioning a new CO2 fire suppression system for the Dutch Flat #2 Powerhouse.	Planning	Hydro has received a draft basis of design report from its consultant for a new fire suppression system at the Dutch Flat #2 Powerhouse. Hydro will review and provide comments for revisions to the document in November. Hydro will then prepare a Project Definition Memo to transfer the project over to Engineering in late 2020.
07	NATHAN DROIVOLD	2020	Deer Creek Powerhouse	2290	Deer Creek Powerhouse Upgrades - Cost of upgrades necessary to sell power upon close of sale	Planning	Hydro will make a site visit to the South Yuba Canal with PG&E during a scheduled outage in early November to take measurements of the inside of the flume while dry. Afterwards, NID will prepare a work plan to submit to PG&E for the approval of the proposed installation of a new gaging station.
08	NATHAN DROIVOLD	2020	Rollins Powerhouse	2351	Replace the existing oil circuit breaker (OCB) at the Rollins Powerhouse with a more environmentally acceptable vacuum circuit breaker.	Planning	Hydro has opened a project with PG&E's engineering team and is working with PG&E to provide requested project documentation. Hydro has contracted with a protection engineering consultant to start the design phase of the project. Breaker specifications are expected to be delivered by early November for Hydro to request a manufacturer's quote for the new vacuum circuit breaker.
09	NATHAN DROIVOLD	2020	Bowman Intertie	2354	Replace the existing Bowman Inter-tie SF6 breaker with a more environmentally friendly vacuum circuit breaker	Planning	Hydro will replace the existing SF6 breaker with a vacuum circuit breaker after completion of the oil circuit breaker replacement at RPH (FATR 2351).
10	THEODORE BLANK	2020	Scotts Flat Powerhouse	2306	Install all components necessary for a backup usage electrical meter for Scotts Flat Powerhouse	Planning	Hydro has received the new meter which has been programmed and certified by a third party (Ultieg). The new meter is scheduled to be in service during the first week of November.
11	NATHAN DROIVOLD	2020	Rollins Powerhouse Balance of Plant	2393	Install an expandable balance of plant to monitor critical plant systems such as excess vibration of the turbine and generator, temperature, and flow.	Planning	Hydro will define the project scope and request bids to complete the design in Q4 2020. The design will be completed in Q3 2021, and installation will be during the Q4 2021 annual outage at RPH.

Hydro-Electric Department Project Status

Prty	Proj Mgr		Facility Name	WO#	Description	Status	Comments
10-2 - HYDRO POWERHOUSE IMPROV (\$1,585,000) 50112-52920							
12	NATHAN DROIVOLD	2020	Rollins Powerhouse Relay Protection Upgrade	2394	Replace aging relay protection system to improve protection of the powerhouse relay, transformer, and generator.	Planning	Hydro is requesting a quote from a protection engineering consultant to develop the project scope in Q4 2020. Hydro will use this to develop a bid package to be released in Q1 2021. Final design and construction is planned to be completed in 2022.
10-3 - HYDRO DAM & WATER IMPROV (\$1,595,000) 50112-52921							
01	MIN CHEN	2020	Scotts Flat Spillway Repair	2094	Scotts Flat Spillway Repair & Upgrades	Planning	The spillway crest stability evaluation report has been approved by DSOD. The HDR proposal for physical hydraulic modeling for the spillway modification, to be built and performed in B.C. Canada, will go before the Board for approval on 11/18/2020.
02	MIN CHEN	2019	Combie Abutment Scour	20140 2	Dam stabilization, abutments protection against scouring, and water supply upgrade	Planning	The draft alternatives report is being reviewed by the District and will be submitted to DSOD for review and approval. Then Hydro will transfer the project to Engineering for the next phase of design.
03	MIN CHEN	2020	Jackson Lake Spillway	2361	Improve spillway training walls on the Jackson Lake Dam	Design	Construction was completed in October 2020. Project ready for close out. Project will be removed from future reports.
04	MIN CHEN	2020	Gaging Station	2007/ 2360	Replace the damaged sections of the concrete lining on the upstream dam face to minimize leakage, modify the spillway training walls to prevent over topping, and construct a weir on the dam outlet to measure flow.	Design	The draft design has been completed by Hydro. The CQCIP and TCEAP are being prepared by Engineering and is scheduled for review by the end of October, before getting submitted to FERC for approval. Construction is scheduled for the Summer/Fall of 2021.
10-4 - HYDRO LOWER DIV(\$450,000) 50112-52922							
01	NATHAN DROIVOLD	2020	Chicago Park Forebay Canal Liner Replacement	2511	Repair segments of the Chicago Park Canal where existing shotcrete liner needs replacement.	Planning	Hydro and Engineering completed a site visit in September during the 2020 outage to inspect the existing liner conditions and develop the project scope. Engineering will prepare a damage assessment report for Hydro in November. Scoping discussions and the development of a design report with an alternatives analysis are planned to start in January of 2021.
10-5 - HYDRO UPPER DIV (\$200,000) 50112-52923							
01	DARYL NOEL	2020	Rucker Creek Spillgate	2339	Replace existing radial gate at Rucker Creek Diversion with an overshot gate to improve personnel safety and operational performance.	Planning	Hydro has submitted a project definition memo to Engineering. Project activities will comment once an Engineering project manager is assigned.
02	NATHAN DROIVOLD	2020	Bowman-Spaulding Canal	2340	Re-establish driving access to the upstream portal of the Clear Creek Tunnel, design and install a bar screen to prevent debris from plugging the tunnel, and perform a canal condition assessment to identify and prioritize repairs or replacements	Planning	Hydro will be seeking a study with an alternatives analysis for possible options to complete the repair of the access road/berm.
10-6 - HYRDO SCADA/COMMS (\$265,000) 50112-52924							
01	KEANE SOMMERS	2022	Hydro Office Radio Tower	2405	Construct a new hydroelectric field office radio tower to improve communication of critical infrastructure.	Design	Hydro released an RFP for this project in October with proposals expected by November 20th. In late November, Hydro will award a contract to complete the feasibility study and preliminary design of the new radio tower to be located at the site of the future Hydro Office.
03	THOMAS KLUGE	2020	Dutch Flat #2 Powerhouse	2390	Install fiber optic communication between Dutch Flat Forebay and PG&E Drum Afterbay to improve reliability.	Planning	Hydro is moving to install a microwave/radio system (including a new radio tower at Dutch Flat 2 Forebay) for data communications. Further study will be needed in 2021.